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Department of Environmental Quality
Division of Air Quality

Site ID: 10627

Michael O. Leavitt
Governor
Dianne R. Nielson, Ph.D.
Executive Director
Richard W. Sprott
Director

150 North 1950 West
P.O. Box 144820
Salt Lake City, Utah 84114-4820
(801) 536-4099 Fax
(801) 536-4414 T.D.D.
www.deq.utah.gov

Title V Operating Permit

PERMIT NUMBER: 3700029002
DATE OF PERMIT: December 4, 2002
Date of Last Revision: November 10, 2003

This Operating Permit is issued to, and applies to the following:

Name of Permittee:

Northwest Pipeline Corporation
295 Chipeta Way
PO Box 58900
Salt Lake City, UT 84158-0900

Permitted Location:

Moab Compressor Station
No Street Address
Moab, UT 84532

UTM coordinates: 4,243,000 meters Northing, 637,500 meters Easting
SIC code: 4922

ABSTRACT

Northwest Pipeline's Moab Compressor Station is a natural gas pipeline compression facility in east-central Utah. Four reciprocating engines, one natural gas-fired turbine, and associated equipment are operated to meet the demand of the pipeline system. Operations are controlled from Northwest Pipeline's headquarters in Salt Lake City. There is no air pollution control equipment at this source. All equipment is fired on natural gas from the pipeline. This source is a major source of nitrogen oxides and carbon monoxide.

UTAH AIR QUALITY BOARD

By:

Richard W. Sprott, Executive Secretary

Prepared By:

Tim Andrus

Operating Permit History

10/22/1997 - Permit issued	Action initiated by an initial operating permit application	
7/17/1998 -Permit modified	Action initiated by a reopening of an operating permit for cause	To modify Provision I.U.1 of the permit to reference the inventory rule directly. Also, in response to EPA comments, monitoring language for natural gas combustion opacity was revised to reflect current language (fuel use monitoring), and PM justification was added.
2/6/2002 -Permit modified	Action initiated by an administrative amendment (initiated by DAQ)	to administratively incorporate the new requirements for the salt bath heater and replacement boiler B002 as issued in DAQE-825-01, 10/16/01, and to incorporate minor changes to H_2S monitoring for turbine per EPA approval letter.
12/4/2002 - Permit issued	Action initiated by a renewal of an operating permit	
11/10/2003 -Permit modified	Action initiated by an administrative amendment (initiated by DAQ)	to replace the existing turbine with a retrofitted unit of higher capacity; to reduce the NO_x and CO limits on the turbine; to allow Method 19 for CO testing; and to remove the 5000 hours/yr limit on the turbine as authorized in DAQE-AN0627004-03 (5/27/03).

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Issued under authority of Utah Code Ann. Section 19-2-104 and 19-2-109.1, and in accordance with Utah Administrative Code R307-415 Operating Permit Requirements.

All definitions, terms and abbreviations used in this permit conform to those used in Utah Administrative Code R307-101 and R307-415 (Rules), and 40 Code of Federal Regulations (CFR), except as otherwise defined in this permit. Unless noted otherwise, references cited in the permit conditions refer to the Rules.

Where a permit condition in Section I, General Provisions, partially recites or summarizes an applicable rule, the full text of the applicable portion of the rule shall govern interpretations of the requirements of the rule. In the case of a conflict between the Rules and the permit terms and conditions of Section II, Special Provisions, the permit terms and conditions of Section II shall govern except as noted in Provision I.M, Permit Shield.

Section I: General Provisions

I.A. **Federal Enforcement.**

All terms and conditions in this permit, including those provisions designed to limit the potential to emit, are enforceable by the EPA and citizens under the Clean Air Act of 1990 (CAA) except those terms and conditions that are specifically designated as "State Requirements". (R307-415-6b)

I.B. **Permitted Activity(ies).**

Except as provided in R307-415-7b(1), the permittee may not operate except in compliance with this permit. (See also Provision I.E, Application Shield)

I.C. **Duty to Comply.**

I.C.1 The permittee must comply with all conditions of the operating permit. Any permit noncompliance constitutes a violation of the Air Conservation Act and is grounds for any of the following: enforcement action; permit termination; revocation and reissuance; modification; or denial of a permit renewal application. (R307-415-6a(6)(a))

I.C.2 It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (R307-415-6a(6)(b))

I.C.3 The permittee shall furnish to the Executive Secretary, within a reasonable time, any information that the Executive Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Executive Secretary copies of records required to be kept by this permit or, for information claimed to be confidential, the permittee may furnish such records directly to the EPA along with a claim of confidentiality. (R307-415-6a(6)(e))

I.C.4 This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance shall not stay

any permit condition, except as provided under R307-415-7f(1) for minor permit modifications. (R307-415-6a(6)(c))

I.D. **Permit Expiration and Renewal.**

I.D.1 **This permit is issued for a fixed term of five years and expires on December 4, 2007**. (R307-415-6a(2))

I.D.2 Application for renewal of this permit is due by June 4, 2007. An application may be submitted early for any reason. (R307-415-5a(1)(c))

I.D.3 An application for renewal submitted after the due date listed in I.D.2 above shall be accepted for processing, but shall not be considered a timely application and shall not relieve the permittee of any enforcement actions resulting from submitting a late application. (R307-415-5a(5))

I.D.4 Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application is submitted consistent with R307-415-7b (see also Provision I.E, Application Shield) and R307-415-5a(1)(c) (see also Provision I.D.2). (R307-415-7c(2))

I.E. **Application Shield.**

If the permittee submits a timely and complete application for renewal, the permittee's failure to have an operating permit will not be a violation of R307-415, until the Executive Secretary takes final action on the permit renewal application. In such case, the terms and conditions of this permit shall remain in force until permit renewal or denial. This protection shall cease to apply if, subsequent to the completeness determination required pursuant to R307-415-7a(3), and as required by R307-415-5a(2), the applicant fails to submit by the deadline specified in writing by the Executive Secretary any additional information identified as being needed to process the application. (R307-415-7b(2))

I.F. **Severability.**

In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force. (R307-415-6a(5))

I.G. **Permit Fee.**

I.G.1 The permittee shall pay an annual emission fee to the Executive Secretary consistent with R307-415-9. (R307-415-6a(7))

I.G.2 The emission fee shall be due on October 1 of each calendar year or 45 days after the source receives notice of the amount of the fee, whichever is later. (R307-415-9(4)(a))

I.H. **No Property Rights.**

This permit does not convey any property rights of any sort, or any exclusive privilege. (R307-415-6a(6)(d))

I.I. **Revision Exception.**

No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit. (R307-415-6a(8))

I.J. **Inspection and Entry.**

I.J.1 Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Executive Secretary or an authorized representative to perform any of the following:

I.J.1.a Enter upon the permittee's premises where the source is located or emissions related activity is conducted, or where records are kept under the conditions of this permit. (R307-415-6c(2)(a))

I.J.1.b Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit. (R307-415-6c(2)(b))

I.J.1.c Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practice, or operation regulated or required under this permit. (R307-415-6c(2)(c))

I.J.1.d Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with this permit or applicable requirements. (R307-415-6c(2)(d))

I.J.2 Any claims of confidentiality made on the information obtained during an inspection shall be made pursuant to Utah Code Ann. Section 19-1-306. (R307-415-6c(2)(e))

I.K. **Certification.**

Any application form, report, or compliance certification submitted pursuant to this permit shall contain certification as to its truth, accuracy, and completeness, by a responsible official as defined in R307-415-3. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. (R307-415-5d)

I.L. **Compliance Certification.**

I.L.1 Permittee shall submit to the Executive Secretary an annual compliance certification, certifying compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. This certification shall be submitted no later than **June 1, 2003** and that date each year following until this permit expires. The certification shall include all the following (permittee may cross-reference this permit or previous reports): (R307-415-6c(5))

I.L.1.a The identification of each term or condition of this permit that is the basis of the certification;

I.L.1.b The identification of the methods or other means used by the permittee for determining the compliance status with each term and condition during the certification period, and whether such methods or other means provide continuous or intermittent data. Such methods and other means shall include, at a minimum, the monitoring and related recordkeeping and reporting requirements in this permit. If necessary, the permittee also

shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Act, which prohibits knowingly making a false certification or omitting material information;

I.L.1.c The status of compliance with the terms and conditions of the permit for the period covered by the certification, based on the method or means designated in Provision I.L.1.b. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 occurred; and

I.L.1.d Such other facts as the Executive Secretary may require to determine the compliance status.

I.L.2 The permittee shall also submit all compliance certifications to the EPA, Region VIII, at the following address or to such other address as may be required by the Executive Secretary: (R307-415-6c(5)(d))

Office of Enforcement, Compliance and Environmental Justice
(mail code 8ENF)
EPA, Region VIII
999 18th Street, Suite 300
Denver, CO 80202-2466

I.M. **Permit Shield.**

I.M.1 Compliance with the provisions of this permit shall be deemed compliance with any applicable requirements as of the date of this permit, provided that:

I.M.1.a Such applicable requirements are included and are specifically identified in this permit, or (R307-415-6f(1)(a))

I.M.1.b Those requirements not applicable to the source are specifically identified and listed in this permit. (R307-415-6f(1)(b))

I.M.2 Nothing in this permit shall alter or affect any of the following:

I.M.2.a The emergency provisions of Utah Code Ann. Section 19-1-202 and Section 19-2-112, and the provisions of the CAA Section 303. (R307-415-6f(3)(a))

I.M.2.b The liability of the owner or operator of the source for any violation of applicable requirements under Utah Code Ann. Section 19-2-107(2)(g) and Section 19-2-110 prior to or at the time of issuance of this permit. (R307-415-6f(3)(b)

I.M.2.c The applicable requirements of the Acid Rain Program, consistent with the CAA Section 408(a). (R307-415-6f(3)(c))

I.M.2.d The ability of the Executive Secretary to obtain information from the source under Utah Code Ann. Section 19-2-120, and the ability of the EPA to obtain information from the source under the CAA Section 114. (R307-415-6f(3)(d))

I.N. **Emergency Provision.**

I.N.1 An "emergency" is any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. (R307-415-6g(1))

I.N.2 An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the affirmative defense is demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

I.N.2.a An emergency occurred and the permittee can identify the causes of the emergency. (R307-415-6g(3)(a))

I.N.2.b The permitted facility was at the time being properly operated. (R307-415-6g(3)(b))

I.N.2.c During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in this permit. (R307-415-6g(3)(c))

I.N.2.d The permittee submitted notice of the emergency to the Executive Secretary within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. This notice fulfills the requirement of Provision I.S.2.c below. (R307-415-6g(3)(d))

I.N.3 In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof. (R307-415-6g(4))

I.N.4 This emergency provision is in addition to any emergency or upset provision contained in any other section of this permit. (R307-415-6g(5))

I.O. **Operational Flexibility.**

Operational flexibility is governed by R307-415-7d(1).

I.P. **Off-permit Changes.**

Off-permit changes are governed by R307-415-7d(2).

I.Q. **Administrative Permit Amendments.**

Administrative permit amendments are governed by R307-415-7e.

I.R. **Permit Modifications.**

Permit modifications are governed by R307-415-7f.

I.S. **Records and Reporting.**

I.S.1 Records.

I.S.1.a The records of all required monitoring data and support information shall be retained by the permittee for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original strip-charts or appropriate recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. (R307-415-6a(3)(b)(ii)

I.S.1.b For all monitoring requirements described in Section II, Special Provisions, the source shall record the following information, where applicable: (R307-415-6a(3)(b)(i))

I.S.1.b.1 The date, place as defined in this permit, and time of sampling or measurement.

I.S.1.b.2 The date analyses were performed.

I.S.1.b.3 The company or entity that performed the analyses.

I.S.1.b.4 The analytical techniques or methods used.

I.S.1.b.5 The results of such analyses.

I.S.1.b.6 The operating conditions as existing at the time of sampling or measurement.

I.S.1.c Additional record keeping requirements, if any, are described in Section II, Special Provisions.

I.S.2 Reports.

I.S.2.a Monitoring reports shall be submitted to the Executive Secretary every six months, or more frequently if specified in Section II. All instances of deviation from permit requirements shall be clearly identified in the reports. (R307-415-6a(3)(c)(i))

I.S.2.b All reports submitted pursuant to Provision I.S.2.a shall be certified by a responsible official in accordance with Provision I.K of this permit. (R307-415-6a(3)(c)(i)

I.S.2.c The Executive Secretary shall be notified promptly of any deviations from permit requirements including those attributable to upset conditions as defined in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken. **Prompt, as used in this condition, shall be defined as written notification within 14 days**. Deviations from permit requirements due to unavoidable breakdowns shall be reported in accordance with the provisions of R307-107. (R307-415-6a(3)(c)(ii))

I.S.3 Notification Addresses.

I.S.3.a All reports, notifications, or other submissions required by this permit to be submitted to the Executive Secretary are to be sent to the following address or to such other address as may be required by the Executive Secretary:

Utah Division of Air Quality
P.O. Box 144820

Salt Lake City, UT 84114-4820
Phone: 801-536-4000

I.S.3.b All reports, notifications or other submissions required by this permit to be submitted to the EPA should be sent to one of the following addresses or to such other address as may be required by the Executive Secretary:

For annual compliance certifications	For reports, notifications, or other correspondence related to permit modifications, applications, etc.
Environmental Protection Agency, Region VIII Office of Enforcement, Compliance and Environmental Justice (mail code 8ENF) 999 18th Street, Suite 300 Denver, CO 80202-2466	Environmental Protection Agency, Region VIII Office of Partnerships & Regulatory Assistance Air & Radiation Program (mail code 8P-AR) 999 18th Street, Suite 300 Denver, CO 80202-2466 Phone: 303-312-6440

I.T. **Reopening for Cause.**

I.T.1 A permit shall be reopened and revised under any of the following circumstances:

I.T.1.a New applicable requirements become applicable to the permittee and there is a remaining permit term of three or more years. No such reopening is required if the effective date of the requirement is later than the date on which this permit is due to expire, unless the terms and conditions of this permit have been extended pursuant to R307-415-7c(3), application shield. (R307-415-7g(1)(a))

I.T.1.b The Executive Secretary or EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit. (R307-415-7g(1)(c))

I.T.1.c EPA or the Executive Secretary determines that this permit must be revised or revoked to assure compliance with applicable requirements. (R307-415-7g(1)(d))

I.T.1.d Additional applicable requirements are to become effective before the renewal date of this permit and are in conflict with existing permit conditions. (R307-415-7g(1)(e))

I.T.2 Proceedings to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. (R307-415-7g(2))

I.U. **Inventory Requirements.**

I.U.1 An emission inventory shall be submitted in accordance with the procedures of R307-150, Emission Inventories. (R307-150)

I.U.2 A Hazardous Air Pollutant Inventory shall be submitted in accordance with the procedures of R307-155, Hazardous Air Pollutant Inventory. (R307-155)

Section II: SPECIAL PROVISIONS

II.A. **Emission Unit(s) Permitted to Discharge Air Contaminants.**

(R307-415-4(3)(a) and R307-415-4(4))

II.A.1 **Reciprocating IC Engine #1** (designated as Unit #P001)
Unit Description: IC compressor engine installed in 1956, fired on pipeline-quality natural gas only

II.A.2 **Reciprocating IC Engine #2** (designated as Unit #P002)
Unit Description: IC compressor engine installed in 1956, fired on pipeline-quality natural gas only

II.A.3 **Reciprocating IC Engine #3** (designated as Unit #P003)
Unit Description: IC compressor engine installed in 1956, fired on pipeline-quality natural gas only

II.A.4 **Reciprocating IC Engine #4** (designated as Unit #P004)
Unit Description: IC compressor engine installed in 1956, fired on pipeline-quality natural gas only

II.A.5 **Turbine** (designated as Unit #P005)
Unit Description: 4700 hp compressor turbine (nameplate ISO rating) fired on pipeline-quality natural gas only, equipped with $SoLoNO_x$

II.A.6 **Boiler #1** (designated as Unit #B001)
Unit Description: 2.5 MMBtu/hr boiler, used for comfort heating, fired on pipeline-quality natural gas only

II.A.7 **Boiler #2** (designated as Unit #B002)
Unit Description: 5.23 MMBtu/hr boiler (approved in 2001), fired on pipeline-quality natural gas only

II.A.8 **Salt Bath Heater** (designated as Unit #SB001)
Unit Description: 0.25 MMBtu/hr heater (approved in 2001), fired on pipeline-quality natural gas only

II.A.9 **Backup Generator #1** (designated as Unit #G001)
Unit Description: 565 hp emergency backup generator, fired on pipeline-quality natural gas only

II.A.10 **Backup Generator #2** (designated as Unit #G002)
Unit Description: 174 kW emergency backup generator (installed prior to 1969), fired on pipeline-quality natural gas only

II.A.11 **Miscellaneous emission points** (designated as Unit #F001)
Unit Description: Fugitive VOC emissions from miscellaneous points, including blowdown vent stack

II.B. **Requirements and limitations.**

The following emission limitations, standards, and operational limitations apply to the permitted facility as indicated: (R307-415-6a(1))

II.B.1 Condition:

Emissions of NO_x shall not be greater than the concentration calculated by the equation

STD = 0.0150 (14.4/Y) + F where

STD is the allowable NO_x emission in percent by volume, dry, at 15 percent oxygen;
0.0150 is the base emission standard, in percent by volume;
Y is the ratio of fuel consumption (in kJ/hr) over output power (in watts), with Y not to exceed 14.4 (dimensionless); and
F is an allowance for the fuel-bound nitrogen as determined by the following table:

Fuel-bound nitrogen, N, wt%	F, NO_x percent by volume
N<0.015	0
0.015<N<=0.1	0.04N
0.1<N<=0.25	0.004 + 0.0067(N - 0.1)
N>0.25	0.005.

[Authority granted under 40 CFR 60.332 (Subpart GG); condition originated in 40 CFR 60.332 (Subpart GG)]

II.B.1.a **Monitoring:**

Stack testing shall be performed as specified here:

(a) Frequency. The source shall be tested at least once every five years based on the date of the most recent stack test, or at any other time if directed by the Executive Secretary. If a turbine covered by this condition is replaced, the new turbine shall be tested within 60 days of reaching maximum capacity, but not later than 180 days after initial startup.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Sample Point The emission sample point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1. In addition, Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(d) Methods

(1) 40 CFR 60, Appendix A, Method 20 shall be used to determine the nitrogen oxides and oxygen concentrations. The span values shall be 300 ppm of nitrogen oxide and 21 percent oxygen;

(2) 40 CFR 60, Appendix A, Method 2 shall be used to determine stack gas velocity and volumetric flow rate;

(3) Fuel-bound nitrogen content shall be assumed to be 0 wt%, in accordance with EPA guidance document EMTIC GD-009 dated 3/12/90;

(e) Calculations. The nitrogen oxides emission rate (NO_x) shall be computed for each run using the following equation:

$NO_x=(NO_{xo})\,(P_r/P_o)^{0.5}\,e^{19(Ho-0.00633)}\,(288\ K/T_a)^{1.53}$ where:

NO_x = emission rate of NO_x at 15% O_2 and ISO standard ambient conditions, volume percent.
NO_{xo} = observed NO_x concentration, ppm by volume.

P_r = reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mm Hg.
P_o = observed combustor inlet absolute pressure at test, mm Hg.
H_o = observed humidity of ambient air, g H_2O/g air.
e = transcendental constant, 2.718.
T_a = ambient temperature, K.

To determine mass emission rates (lb/hr, etc.), the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(f) Production Rate During Testing. The operational rate during all compliance testing shall be no less than 90% of the maximum rate achieved in the previous three (3) years (origin: 40 CFR 60.335(c), 40 CFR 60.8 & R307-165)

II.B.1.b **Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.1.c **Reporting:**

Results of required stack testing shall be submitted to the Executive Secretary within 30 days of completion of the testing. The submittal shall clearly identify results and indicate compliance status. The annual compliance certification required by Provision L in Section I of this permit shall use the most recent test results as a basis for stating compliance status for this limitation.

II.B.1.d **Affected Units:**

Turbine (Unit #P005)

II.B.2 Condition:

Emissions of CO shall be no greater than 4.55 lbs/hour. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0627004-03]

II.B.2.a **Monitoring:**

Stack testing shall be performed as specified here:

(a) Frequency. The unit shall be tested at least once every five years. Tests may also be required at the direction of the Executive Secretary if the source is suspected to be in violation with other conditions of this permit.

(b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Sample Point. The emission sample point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1. In addition, Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.

(d) Methods.

(1) 40 CFR 60, Appendix A, Method 10 shall be used to determine CO emissions;

(2) 40 CFR 60, Appendix A, Method 2 shall be used to determine stack gas velocity and volumetric flow rate; Method 19 may be used in place of Method 2 if the unit is equipped with a calibrated fuel meter and fuel analysis is available.

(e) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation. In addition, values shall be corrected to 7% excess oxygen as appropriate.

(f) Production Rate During Testing. The operational rate during all compliance testing shall be no less than 90% of the maximum rate achieved in the previous three (3) years.

II.B.2.b **Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.2.c **Reporting:**

Results of required stack testing shall be submitted to the Executive Secretary within 30 days of completion of the testing. The submittal shall clearly identify results and indicate compliance status. The annual compliance certification required by Provision L in Section I of this permit shall use the most recent test results as a basis for stating compliance status for this limitation.

II.B.2.d **Affected Units:**

Turbine (Unit #P005)

II.B.3 Condition:

Emissions of NO_x shall be no greater than 6.28 lbs/hour. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0627004-03]

II.B.3.a **Monitoring:**

Compliance with the limitation shall be determined by calculating an average NO_x emission rate based on the total Btu value of the fuel combusted and the hours of operation for each affected turbine as follows:

The quantity of natural gas combusted in the turbine shall be monitored. Each month, the total amount of natural gas combusted in the turbine shall be calculated and multiplied by the average Btu value of the fuel. The resulting Btu total shall be multiplied by the appropriate emission factor to estimate the NO_x emissions for that month. The emission total shall be divided by the hours of operation for the turbine during the month to calculate an average lb/hr emission rate.

The emission factor used in this calculation shall be determined by dividing the average NO_x emission rate (lb/hr) at peak load calculated from the most recent stack test by the fuel flow rate (Btu/hr) corresponding to peak load for each affected turbine.

The average NO_x emission rate (lb/hr) calculated from the most recent stack test shall also be used for determining compliance with this limitation.

II.B.3.b **Recordkeeping:**

The following information will be calculated and recorded within 15 days of the end of each month: 1) The total amount of fuel combusted in the unit by volume (scf/month) and by heating value (Btu/month); 2) the average heating value of the fuel (Btu/scf) combusted during the month; 3) the total hours of operation of the unit for the month; 4) the total NO_x emissions calculated using the emissions factor; and 5) the average NO_x emissions (lb/hr) for the month. The records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.3.c **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.3.d **Affected Units:**

Turbine (Unit #P005)

II.B.4 Condition:

Hours of operation shall be no greater than 200 hours per 12-month period. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0627004-03]

II.B.4.a **Monitoring:**

An hour meter shall be used to continuously monitor the hours of operation for the affected equipment. Readings shall be taken monthly to determine the total operating hours for that month. Compliance with the limitation shall be determined on a rolling 12-month total. Each month, a new 12-month total shall be calculated using data from the previous 12 months.

II.B.4.b **Recordkeeping:**

Records of each monthly check will be maintained in accordance with Provision I.S.1 of this permit. Additionally, the record shall include the reading for each hour meter and the calculated total hours of operation for the previous twelve months.

II.B.4.c **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.4.d **Affected Units:**

Backup Generator #1 (Unit #G001)

II.B.5 Condition:

Sulfur content of the fuel combusted shall be no greater than 0.8 percent by weight. [Authority granted under 40 CFR 60.333 (Subpart GG); condition originated in 40 CFR 60.333 (Subpart GG)]

II.B.5.a **Monitoring:**

Compliance with the fuel sulfur content condition shall be determined by analyzing the hydrogen sulfide content of the gas according to the Gas Processors Association document "Test for Hydrogen Sulfide and Carbon Dioxide in Natural Gas Using Length of Stain Tubes", 1984, or by chromatograph. The analysis shall be done at least once every six months at each of the following locations:

1) Sumas compressor station (WA);
2) Stanfield compressor station (OR, south-flowing gas when sampled) or Plymouth compressor station (OR, north-flowing gas when sampled);
3) Muddy Creek compressor station (WY);
4) La Plata B Plant (CO); and
5) Pleasantview compressor station (CO).

(origin: EPA alternate monitoring approvals 8/18/00 (see comments))

II.B.5.b **Recordkeeping:**

Results of monitoring shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.5.c **Reporting:**

The results of the testing shall be submitted semi-annually to the Executive Secretary and to EPA. Any deviations from this provision shall be promptly reported to the Executive Secretary and to EPA; and included in the semi-annual monitoring report. All reports shall be in accordance with Provision I.S.2 of this permit.

II.B.5.d **Affected Units:**

Turbine (Unit #P005)

II.B.6 Condition:

Visible emissions shall be no greater than 10 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0627004-03]

II.B.6.a **Monitoring:**

In lieu of monitoring via visible emission observations, fuel usage shall be monitored to demonstrate that only pipeline-quality natural gas is used as fuel.

II.B.6.b **Recordkeeping:**

Results of monitoring shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.6.c **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.6.d **Affected Units:**

Turbine (Unit #P005)
Boiler #2 (Unit #B002)

Salt Bath Heater (Unit #SB001)
Backup Generator #1 (Unit #G001)

II.B.7 Condition:

Visible emissions shall be no greater than 20 percent opacity unless otherwise specified in this permit. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-AN0627004-03]

II.B.7.a **Monitoring:**

In lieu of monitoring via visible emission observations, fuel usage shall be monitored to demonstrate that only pipeline-quality natural gas is used as fuel.

II.B.7.b **Recordkeeping:**

Results of monitoring shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.7.c **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.7.d **Affected Units:**

permitted source (Source-wide)

II.B.8 Condition:

The permittee shall notify the Executive Secretary in writing when the installation of new equipment in the affected unit has been completed and is operational, as an initial compliance inspection if required. To ensure proper credit when notifying the Executive Secretary, send your correspondence to the Executive Secretary, attn: Compliance Section.

If installation has not been completed within eighteen months from the date of the approval order listed as "origin" for this condition, the Executive Secretary shall be notified in writing on the status of the installation. At that time, the Executive Secretary shall require documentation of the continuous installation of the operation and may revoke the AO in accordance with R307-401-11, UAC.. [Authority granted under R307-401-11; condition originated in DAQE-AN0627004-03]

II.B.8.a **Monitoring:**

There are no monitoring requirements for this provision except those specified in Section I of this permit.

II.B.8.b **Recordkeeping:**

Records of the notifications required by this condition shall be maintained consistent with the requirements of Provision S.1 in Section I of this permit.

II.B.8.c **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.8.d **Affected Units:**

Turbine (Unit #P005)

II.C. **Emissions Trading.**

(R307-415-6a(10))

Not applicable to this source.

II.D. **Alternative Operating Scenarios.**

(R307-415-6a(9))

Not applicable to this source.

Section III: PERMIT SHIELD

The following requirements have been determined to be not applicable to this source in accordance with Provision I.M, Permit Shield:

III.A. **40 CFR 63 Subpart H (National Emission Standards for Organic HAPs for Equipment Leaks)**

This regulation is not applicable to the permitted source (Source-wide) because this source has no equipment in organic hazardous air pollutant (OHAP) service and is not subject to any subpart that references this regulation

III.B. **40 CFR 61 Subpart V (National Emission Standard for Equipment Leaks (Fugitive Emission Sources))**

This regulation is not applicable to the permitted source (Source-wide) because this source has no equipment in volatile hazardous air pollutant (VHAP) service

III.C. **40 CFR 61 Subpart A (General Provisions)**

This regulation is not applicable to the permitted source (Source-wide) because this source does not handle any of the listed substances

III.D. **40 CFR 63 Subpart B (Requirements for Control Technology Determinations for Major Sources)**

This regulation is not applicable to the permitted source (Source-wide) because this source is not a major source of hazardous air pollutants

III.E. **40 CFR 68 (Chemical Accident Prevention Provisions)**

This regulation is not applicable to the permitted source (Source-wide) because no listed substance is now stored at this source at levels above the threshold quantity; also, the pipeline and associated compression equipment are regulated under 49 CFR Part 192 and so do not meet the definition of "stationary source" for this part

Section IV: ACID RAIN PROVISIONS.

This source is not subject to Title IV. This section is not applicable.

REVIEWER COMMENTS

This operating permit incorporates all applicable requirements contained in the following documents:

DAQE-AN0627004-03 dated May 27, 2003

1. **Comment on an item originating in 40 CFR 60 Subpart GG regarding Turbine (Unit P005)**
   Definition of ISO standard day conditions: The standards prescribed in this subpart reference ISO standard day conditions. These are defined in the subpart as 288 K, 60% relative humidity, and 101.3 kPa (58.7 °F, 14.7 psia, 60% relative humidity). [Comment last updated on 4/30/1997]

2. **Comment on an item originating in DAQE-1103-96 regarding permitted source (Source-wide)**
   Requirement to increase IC engine stack heights: This condition was not carried into the operating permit because the source complied with the AO requirement to raise the reciprocating engine stacks to 10.7 meters in October 1995. [Comment last updated on 4/28/1997]

3. **Comment on an item originating in 40 CFR 60 Subpart GG regarding permitted source (Source-wide)**
   Requirement to monitor water-fuel ratio at turbine (40 CFR 60.334(a)): The turbine at this source does not employ water injection, so the requirement is not included in this permit. [Comment last updated on 1/27/1997]

4. **Comment on an item originating in 40 CFR 60 Subpart GG regarding Turbine (Unit P005)**
   Requirement to monitor fuel-bound nitrogen content: This requirement was not included in this permit as the source combusts only pipeline quality natural gas, which typically has no fuel-bound nitrogen. This requirement is apparently intended for coal- or oil-derived fuels. Also, EMTIC guidance document GD-009 indicates that there is no good test at this time, so the F-factor should be zero. A letter from EPA Region 8 dated 1/20/93 to NWP agrees that no nitrogen monitoring is needed for natural gas. [Comment last updated on 6/09/1997]

5. **Comment on an item originating in 40 CFR 52 regarding permitted source (Source-wide)**
   State Implementation Plans: Source requested a shield term for 40 CFR 52. This part includes many requirements for the state, which do not directly affect the source; however, Subpart TT is the federal approval of the Utah SIP, which does contain requirements for sources in attainment areas. This shield item was declined. Portions of 40 CFR 52 not including Subpart TT may be included in future shield terms if more explicit justification is provided. [Comment last updated on 1/15/1997]

6. **Comment on an item originating in 40 CFR 51 regarding permitted source (Source-wide)**
   Requirements for Preparation, ..of Implementation Plans: Source requested a shield term for 40 CFR 51. This part includes many requirements for the state which do not

directly affect the source; however, Subpart I is the regulatory authority for all new source review, including PSD. This shield item was declined. Portions of 40 CFR 51 may be included in future shield terms if more explicit justification is provided. [Comment last updated on 1/15/1997]

7. **Comment on an item originating in 40 CFR 60 Subpart GG regarding Turbine (Unit P005)**

   Requirement to monitor sulfur content of turbine fuel [40 CFR 60.334(b)(2)]: NWP has submitted and received approval for a custom schedule per a letter from Doug Skie on July 22, 1993. Conditions in this permit reflect the letter contents. Typical values from prior testing show <5 ppm H_2S, so 150 ppm SO_2 limit in Subpart GG would not be at risk. The test method is intended for a range of H_2S from 3 to 120 ppmv. NWP also indicated in a support letter on this issue that gas as delivered to local distribution companies has a sulfur content less than 0.003 wt%. The listed test points were approved by EPA as demonstrating that the pipeline gas was adequately monitored. Since all combustion at the source uses pipeline gas, this monitoring satisfies the sulfur standard of this subpart. [Comment last updated on 4/30/1997]

8. **Comment on an item originating in EPA comment regarding permitted source (Source-wide)**

   Justification of monitoring: The turbine at the source is subject to the NO_x concentration limits in Subpart GG, NO_x BACT limits (in lb/hr), and CO BACT limits (also in lb/hr). The NO_x concentration limit and CO BACT limit have five-year (minimum) stack test requirements. However, the NO_x BACT limit uses an emission factor (derived from the stack test) in conjunction with fuel quality and consumption monitoring on a monthly basis to demonstrate compliance.

   Additionally, no controls are used to meet these limits, the emissions are not typically variable, and the sites are remote, which makes frequent stack testing infeasible. [Comment last updated on 10/07/2003]

9. **Comment on an item originating in EPA Technical Enforcement Program memo regarding Turbine (Unit P005)**

   H_2S Monitoring approval: The sulfur content monitoring described above was modified by NWP request and approved in an EPA memo dated 8/18/2000 to include chromatography and station location. This change was incorporated with the 1/2002 admin amendment.

   Also, Mike Owens requested a change in the origin for the monitoring condition to show the EPA letters of approval. Due to space constraints, the full list will not fit in the permit. EPA issued letters on 1/20/93, 2/5/93, 7/22/93, and 8/18/2000 approving this monitoring approach. The letters are on file at DAQ. [Comment last updated on 7/19/2002]

10. **Comment on an item originating in This permit regarding Turbine (Unit P005)**

    NO_x monitoring during turbine change: According to information from the source, turbine replacement will occur during November 2003. Stack testing is planned for early December. For the first month or so, there will be no NO_x emission factor for the new turbine for use in the monitoring for the BACT limit. It is anticipated that the source may use a vendor-supplied factor for this period, or will have to hold those calculations until after the performance test results are received. The time frame

involved is sufficiently short to be of trivial environmental significance either way. [Comment last updated on 10/07/2003]